



Management

A COMPARATIVE ANALYSIS ON NON-PERFORMING LOANS (NPLs) IN THE BANKING SECTORS OF BANGLADESH

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Abstract

The aims of this study is to be analyzed the comparative position of all the fours banking categories on non-performing loans in Bangladesh and also investigate what are the different causes of non-performing loans in banking sectors of Bangladesh. This study will cover based on secondary data, which has been collected from the annual reports of the Bangladesh Bank during the 2006-2017 for 12 years and total NPL, NPL to Total Loans ratio and Trends of net NPL to total loans ratio are taken as variables of the study. The data are analyzed by using descriptive Statistics, ANOVA Test and the Test of Homogeneity of Variances. In this paper it is found that there is significant difference at the performances of four categories of banks on the Non-performing loans and there is no Homogeneity of Variances of total NPL, NPL to Total Loans ratio and Trends of net NPL to total loans ratio among all the banking categories. The SCBs and DFIs have continues maintain the high level of NPL and NPLs ratio to total loans then PCBs and FCBs and the NPLs recovery record during the study period has witnessed some sign or signal for improvement, due to number of step are taken with regard to internal restructuring for strengthen the loan recovery mechanism and initiative taken for written off measurement in recent time for all the banking categories. The suggestions and recommendation have been given for improve the present situation of non-performing loans in the banking sectors in Bangladesh.

Keywords: Non-Performing Loans; NPLs Ratio to Total Loans; The Net NPLs to Total Loans Ratio; Bank Financial Institutions; Performance on NPLs.

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1. Introduction

The banking system of Bangladesh is the combination of four categories of Banks such as State-Owned Commercial Banks (SCB's), Development Financial Institutions (DFI's), Private Commercial Banks (PCB's) and Foreign Commercial Banks (FCB's).the main sources of capital for the business organization and entrepreneurs is money market that means Banking Industry due

to the lack of strong capital market in Bangladesh that is why it is clear to be that the banking systems play an important role to economic development of a country by the ways of mobilizing saving which done by collecting deposit from the surplus units those collected fund provide loans to the deficit units so that unquestionably it is saying that the main function of a banks is accept deposits and provides loans that is why the success of banking business heavily depends on how efficiently banks collect fund and how efficiently management the loans so that the performance on loans management is important for banking industry. The deepest Problems of the banking industry in Bangladesh are a large portion of loans are becoming frequently non-performing. A bank loan is to be considered non-performing loan when more than 90 days pass without the borrower paying the agreed installments or interest. The nonperforming loans are another way called “bed debt” (**European Central Bank, 2016**). The NPLs is big problem for banking industry in Bangladesh because all of the four banking categories had the high NPLs ratio to total loans it is more then 3, 4, 5 and sometime 10 times more than the international standard 2 percent of NPLs ratio to total loans. The quality of asset of a bank heavily depends on NPLs because loans are a major part of the asset of banks and also its impact on profitability and economic development of a country so that all the banking categories in Bangladesh should improve the performance on NPLs to improve the current situation for Banks themselves and for the country.

2. Statement of the Problems

The financial market construct with the combinations of capital market and money market, since capital market of Bangladesh is not strong that is why the banking industry is the main sources of capital for the business organization or Entrepreneur in Bangladesh. The deepest or big crisis/Problems of the banking industry in Bangladesh are a large portion of loans are becoming frequently non-performing. What are the performance on the non-performing loans and finding out the reasons, why the large portion of loans are becoming frequently non-performing, what should be effective monitoring and controlling system or effective remedial measures of all of the four Banking categories of banks in Bangladesh that is why the study is planned.

3. Objectives of The Study

- To know about the Non-performing loan and its current **trends** / status in banking sector of Bangladesh.
- To make a comparison of the performance on non-performing loan among all four categories of banks in Bangladesh Banking sector during the study period.
- To identify the performance on loaning activities by the four categories of banks in Bangladesh Banking sector during the study period.
- To identify the causes of sizeable non-performing loan among four categories of banks in Bangladesh Banking sector during the study period.
- To recommendation and suggestions for the Improvement of present situation or problem.

4. Hypothesis of the Study

Hypothesis

a)

H₀=There is no significant difference regarding total amount of non-performing loans among the all four banking categories during the study period.

H₁= There is significant difference regarding total amount of non-performing loans among the all four banking categories during the study period.

Hypothesis for Test of Homogeneity of Variances:

H₀=There is Homogeneity of Variances regarding total amount of non-performing loans among the all four banking categories during the study period.

H₁= There is **no** Homogeneity of Variances regarding total amount of non-performing loans among the all four banking categories during the study period.

b)

H₀=There is no significant difference regarding trends of NPL (non-performing loans) ratios among the all four banking categories during the study period.

H₁= There is significant difference regarding trends of NPL (non-performing loans) ratios among the all four banking categories during the study period.

Hypothesis for Test of Homogeneity of Variances:

H₀=There is Homogeneity of Variances regarding trends of NPL (non-performing loans) ratios among the all four banking categories during the study period.

H₁= There is no Homogeneity of Variances regarding trends of NPL (non-performing loans) ratios among the all four banking categories during the study period.

c)

H₀= There is no significant difference regarding trends of net NPL (non-performing loans) to total loans among the all four banking categories during the study period.

H₁= There is significant difference regarding trends of net NPL (non-performing loans) to total loans among the all four banking categories during the study period.

Hypothesis for Test of Homogeneity of Variances:

H₀=There is Homogeneity of Variances regarding trends of net NPL (non-performing loans) to total loans among the all four banking categories during the study period.

H₁= There is no Homogeneity of Variances regarding trends of net NPL (non-performing loans) to total loans among the all four banking categories during the study period.

5. Review of related literature

Lata, R. S. (2015, September) focus on an essential study entitled “**Non-Performing Loan and Profitability: The Case of State Owned Commercial Banks in Bangladesh.**” The author mainly attempt to findout the time series scenerio of NPLs, growth and provision of NPLs and relation of NPLs with the banks profitibility by using some ratio analysis and liner Regression model of econometric techniques. After analysis by using econometric technique the emperical result instruct that NPLs as a percentage of total loans of SCBs is very high, its holds more then 50% of total NPLs of the banking industry and also its is a major factors of influancing banking profitibility, it has statistically significants negative impact on net intrest income of SCBs during the study periods.

RIFAT, A. M. (2016, January–December) expressed an important idea entitled “**An Analytical Study of Determinants of Non-Performing Loans: Evidence from Non-Bank Financial Institutions (NBFIs) of Bangladesh.**” In this paper the researcher trying to find-out the determinants of non-performing loans (NPLs) in the Non-Bank Financial Institutions(NBFIs) sectors in Bangladesh and also tested to determine the impact of macroeconomic or firm-specific variable on classified loans. For this study in this paper used correlation matrix and regression analysis. The result of analysis express that the firm specific factors were more significant for non-performing loans of Non-Bank Financial Institutions(NBFIs).

Akter, R., & Roy, J. K. (2017, February) highlight in this study “**The Impacts of Non-Performing Loan on Profitability: An Empirical Study on Banking Sector of Dhaka Stock Exchange.**” The authors focus in this study to analyze the impact of non-performing loans (NPL) on profitability, to find out the time series scenario of non-performing loans (NPL), growth and provision of NPLs and relation of NPLs with the banks profitability by using some ratio analysis and linear Regression model of econometric techniques. The result of analysis express that non-performing loans (NPL) as a percentage of total loans on listed banks in Dhaka Stock Exchange (DSE) is very high and they hold more than 50% of total non-performing loans (NPL) of listed 30 banks under Dhaka Stock Exchange (DSE) during the study period and non-performing loans (NPL) is one of the major factors of influencing banks profitability and it has statistically significant negative impacts on profitability of listed banks during the study period.

Khanam et al. (2013, September) wrote an article on “**Management of Non- Performing Loans (NPLs) of Banks in Bangladesh -An Evaluative study.**” The researchers investigate through this study the different causes of non-performing loans, using the sample of 30 managers of selected largest banks, there is found that the influence of politicians was perceived as the major external factors. During the loan application process the diversion of fund by customer failed to disclose vital information is to be considered main customer specific factors and lack of aggressive credit policy is the bank specific factors to contribute non-performing loan in Bangladesh. For this study here we use the simple regression analysis.

Jolevska, E. D., & Andovski, I. (2015, February) conduct a study on “**NON- PERFORMING LOANS IN THE BANKING SYSTEMS OF SERBIA, CROATIA AND MACEDONIA: COMPARATIVE ANALYSIS.**” The writers of this paper mainly focus to evaluate the level of Non-performing loans (NPL) in banking system of the three sample Balkan countries, along with this they dedicated their special attention to the level of Non-performing loans (NPL) and their ratio compared to total loans. These three countries are chosen as a sample of the study because they had high credit growth in the past time until their financial crises, the sample three countries banking system dominated by foreign banks and they face crises at the same time. The result shows in comparative analysis the differences of credit portfolio quality in sample countries as well as the reasons for the differences.

Omwenga, N. K., & Omar, N. (2017) express an idea entitled “**Effects of Non-Performing Loans on the Financial Performance of Commercial Banks in Kenya.**” Mainly the researchers examine through their study the effect of non-performing loans (NPL) on the financial performance of commercial banks in Kenya. The researchers collect data for this study mainly primary data through questionnaires and the data are analyzed by using Correlation and Regression

analysis. The result of the analysis reveal that there is positive relationship between dependents variabls and independent variabls with coefficient of determinants of 75.1. This study recommended that the Commercial banks should encourage loan defaulter to restructure their repayments schedule according to their comfortability to reduce non-performing loans,the Commercial banks provide more secure loans to borrower than unsecure loans against valuable collateral and the Commercial banks evaluate borrowers by using various parameters to reduce the bad debts.

Suryanto (2015, July) opine an idea entitled “**Non Performing Loans on Regional Development Bank in Indonesia and Factors that Influence.**” The researcher ami to analyze in this paper the non-performance loans (NPL) at the Regional Development Bank in Indonesia and determine what are the factors influence it.The period of study covered 5 years and sources of data are mainly secondary data, the data are analyze through the Hausman test, Generali Classical Least Squares and Hypothesis test. The result of analysis express that the NPL of BPD is 2.14% average that is still on the tolerance limits set by Indinesia. The variables which are significantly affect the NPL are the level of efficiency of banks, Mortgage interest rata and liquidity of banks.

Singh, V. R. (2016, March) focus an idea on “**A Study of Non-Performing Assets of Commercial Banks and it’s recovery in India.**” The objectives of this paper is to understand NPA, the current status and trend of NPAs of schedule banks in india,the factors contribute to NPAs, the resons of high impact of NPAs of schedule banks in india and its recovery of NPAs through the various number of channel. For this study there is used secondary data.The research reselt shows tha gross NPAs and net NPAs of schedule commercial banks in India is increased also found that ineffective recovery, wilful defaults and defective lending process are responsible for rising of NPAs and finally NPAs is the causes of reducing earning capacity of banks and badly affect ROI during the study periods of schedule banks in india.

Makri, et. al. (2013, April) opine an idea entitled “**Determinants of Non-Performing Loans: The Case of Eurozone.**” They identyfy in this paper the factors affecting the non-performing loans(NPL) of Eurozone’s banking systems just before the starting of recession on the Eurozone. The researcher used panel regression methods for data analysis and also implement different Generalized Method of the Moments estimation.The result of the analysis reveals strong correlation between NPL and various macroeconomic factors such as public debt, unemployment, annual percentage growth rate of gross domestic product and bank specific risk such as capital adiquacy ratio, rate of nonperforming loans and return on equity (ROE).

Asfaw, et.al. (2016, May) focus an idea in the article entitled “**Factors Affecting Non-Performing Loans: Case Study on Development Bank of Ethiopia Central Region.**” The researchers aims in this study to identify the majors factors affecting the non-performing loand of Development Banks of Ethiopia, Central Region. For achiving this objective researchers used primary sources of data by using questioneries and secondary data,the analysis of data by using descriptive statistics including mean, frequency and percentage are used with the help of computer loaded SPSS software. The finding of the analysis revele that poor credit assessment and credit monitoring are the major causes of the occurrence of NPL in DBE and credit size, high intrst rate, poorly negotiated credit terms and elongated process of loan approval are the specific causes of the non-performing loan of Development Banks of Ethiopia, Central Region.

6. Concept of NPL

The non-performing loans (NPLs) are that loans which are in or close to default. These NPLs normally happened when the principal and interest payments on the loan are overdue by 90 days or more. The NPLs are generally treated as bed debt that is why there is minimum chance of greeting back. (**The Motley Fool, 2018**)

The non-performing loan (NPLs) refers to those loans from which interest or installments are received no longer as on schedule. It is known as non-performing because the loans cases to “perform” or generate income for the bank. (**Sarker, 2017**)

A bank loan is to be considered non-performing loan when more than 90 days pass without the borrower paying the agreed installments or interest. The nonperforming loans are another way called “bed debt” (**European Central Bank, 2016**)

According to the Basel definition that the loan is to be considered non-performing loan when the borrower is 90 days or more behind on the contractual payments or when the obligor “is unlikely to pay its credit obligations to the banking group in full, without recourse by the bank to action such as realizing the security.” (**According to the Basel definition,**)

7. Research Methodology

The Sample of the Study

There are four categories /groups of banks in the banking sectors of Bangladesh. These four groups of banks taken as the population of the research, the four groups of Banks are as follows.

- State-Owned Commercial Banks (SCB’s)
- Development Financial Institutions (DFI’s)
- Private Commercial Banks (PCB’s)
- Foreign Commercial Banks (FCB’s)

Variables: The Total NPLs, NPLs to Total Loans ratio and Trends of net NPLs to total loans ratio are taken as variables of the study.

Period of the study: The period of the study will cover 12 years from 2006-2017.

Sources of Data & Data Analysis: This study will cover based on secondary data, which has been collected from the annual reports of the Bangladesh Bank, journals, magazines, reports, statistical year book, the ministry of finance, government of Bangladesh, economic trend, resume the activities of banks and financial institutions, Bangladesh economic review, and websites of the respective banks and other related websites.

For the comparison among four banking groups, numbers of statistical test are used according to the nature, scope and objective of the study, some test are descriptive and some test analytical. The data are analyzed by ANOVAs test and the **Test of Homogeneity of Variances** by using SPSS software on the basis of 5% level of significance.

8. Limitation of the Study

This study generally based on limited number of years from 2006 to 2017 and the source of data is only one source the annual Reports of Bangladesh Bank. Another important limitation is this study based on current status of NPLs on the banking sectors of Bangladesh but NPLs is changing over time so that there is no forecasting future development.

The reasons behind loans becoming non-performing in Bangladesh

The loans are becoming non-performing loans (NPLs) for the various reasons those reasons are given below-

- The most important causes of Non-performing Loans (NPLs) because of choosing of wrong customer for loans sanction;
- The customer divert fund to fixed or long term investment that investment unable to generate cash flow quickly that is why there is NPLs;
- Another one of the major cause of NPLs is some time customer start a new business after taking loans if the customer having enough knowledge about this business then the business will not run efficiently or handle properly so that sufficient cash are not generated;
- For the sanction of loans there is intense competition among the banks is another causes of Non-performing Loans (NPLs);
- The borrowers are face the huge loss due to fail the commitment of delivery of loans to borrowers on due date and sometime borrowers are suffered from loss continuously at that time the borrower need extinctions of current loans but the banks are denied that is why borrower become default;
- Most often the political pressure creates the influence to sanction loans customers who are not eligible for those loans sanctions;
- Due to excess loans and interest burden presser there is Non-performing Loans NPLs;
- If the country run under the recession period so that sluggish the growth of economy which lead the business unprofitable at that time the borrowers unable to pay the principles and interest;
- The political unrest and frequently change the government policy which may cause of Non-performing Loans;
- Lack of operational efficiency or operational weakness and week governance of corporation for the sanction and collection policy of the banking sectors in Bangladesh;
- Sometime the unethical activities or corruption of the banks staffs are the causes of Non-performing Loans (NPLs).

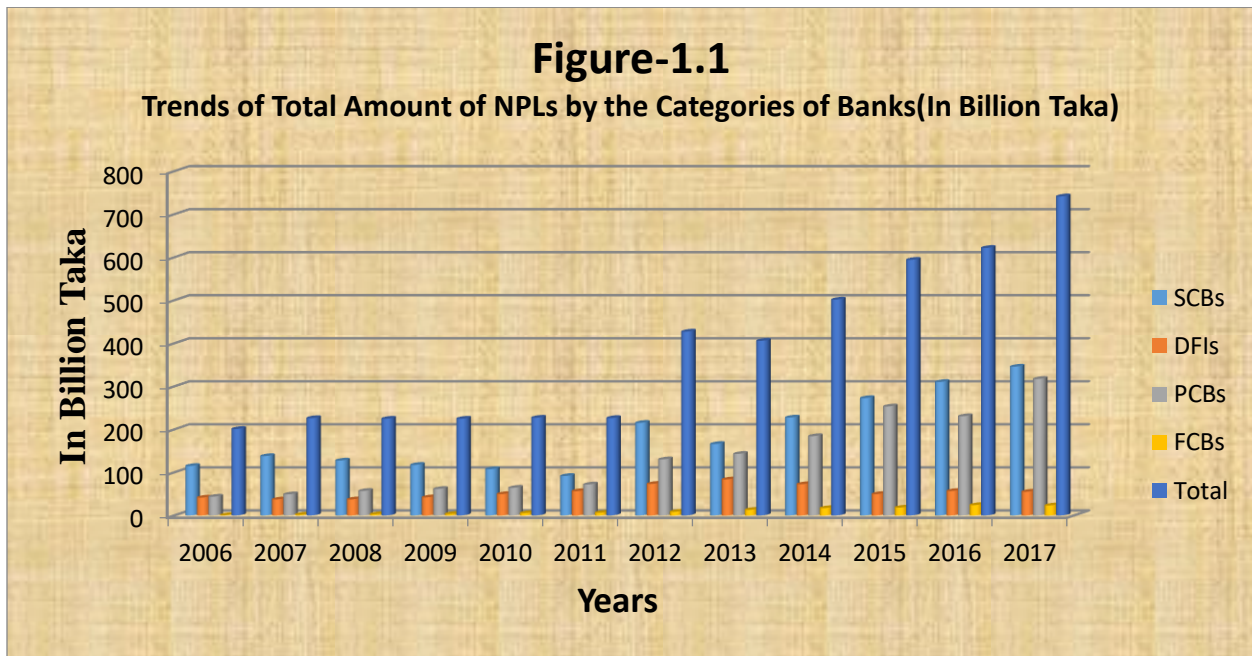
9. Analysis and Interpretation

Table 1.1: Trends of total Amount of NPLs by the categories of banks (In Billion Taka)

Banks categories	Years											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
SCBs	115	137.9	127.6	117.5	107.6	91.7	215.2	166.1	227.6	272.8	310.3	345.8
DFIs	41.5	37.2	37.3	42.1	49.7	56.5	73.3	83.6	72.6	49.7	56.8	55.2
PCBs	43.7	49.2	57	61.7	64.3	72	130.4	143.1	184.3	253.3	230.6	317.3

FCBs	0.8	1.9	2.9	3.5	5.5	6.3	8.5	13	17.1	18.2	24.1	23.2
Total	201	226.2	224.8	224.8	227.1	226.4	427.3	405.8	501.6	594.1	621.8	741.5

Source: Annual Reports of Bangladesh Bank (2006-2017)



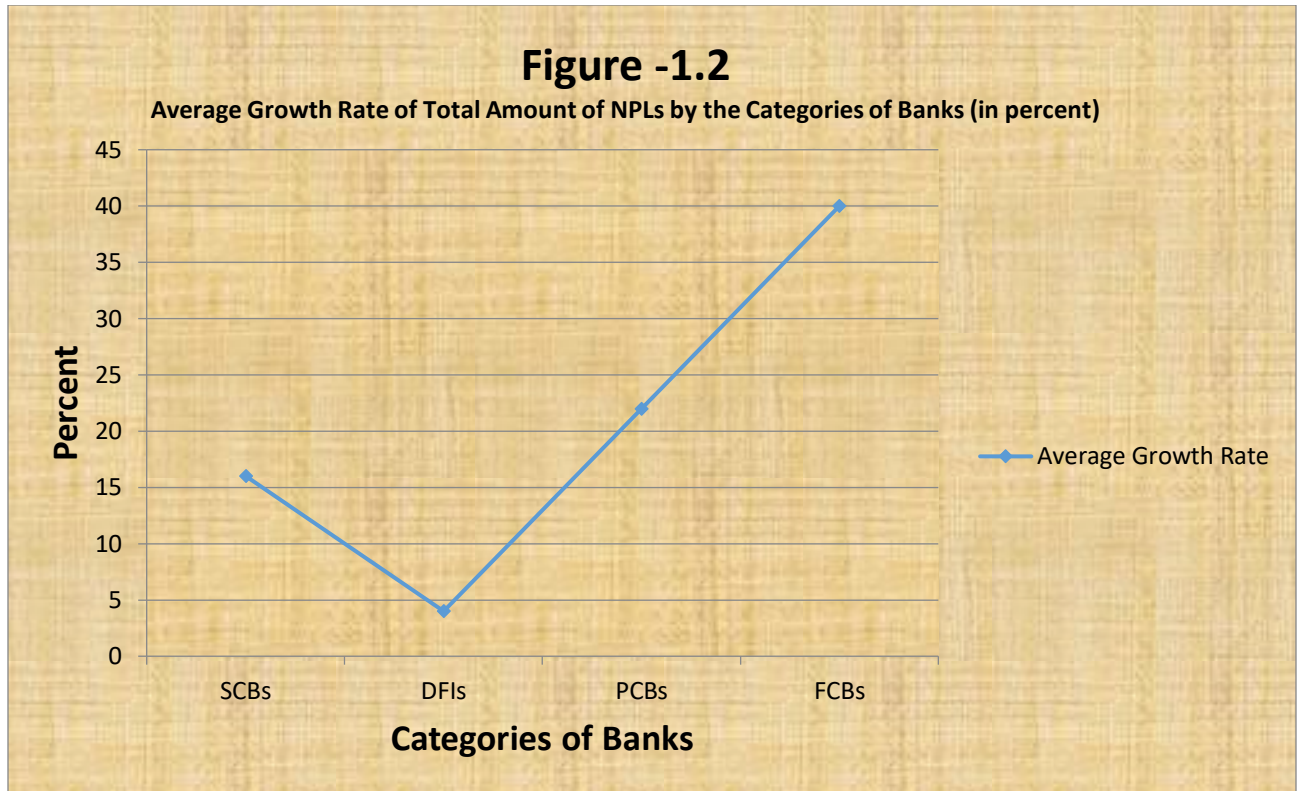
Source: Annual Reports of Bangladesh Bank (2006-2017)

In above Table 1.1 and Figure 1.1 present the tabular and graphical representation of Trends of the total Amount of NPLs by the categories of banks (In Billion Taka).The SCBs has the highest increasing trends in total amount of NPLs and second highest increasing trends for PCBs then DFIs and FCBs are respectively since all the banking categories Trends of the total Amount of NPLs is increasing (but not increase by same amount of percentage) so that total amount of NPLs are increasing in banking sectors in Bangladesh during the study period 2006-2017.SCBs total NPLs was 115 billion and total NPLs of DFIs, FCBs, PCBs were 41.5, 43.7 and .8 at the end of year 2006 which shown at the table 1.1. The total NPLs of SCBs, DFIs, PCBS and FCBs were 345.8, 55.2, 317.3 and 23.2 billion are respectively at the end of December 2017.

Table 1.2: Trends of the growth of total Amount of NPLs by the categories of banks (In Percent)

Banks categories	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average Growth Rate
SCBs	20	-7	-8	-8	-15	135	-23	37	20	14	11	16
DFIs	-10	0	13	18	14	30	14	-13	-32	14	-3	4
PCBs	13	16	8	4	12	81	10	29	37	-9	38	22
FCBs	138	53	21	57	15	35	53	32	6	32	-4	40

Source: Annual Reports of Bangladesh Bank (2006-2017)



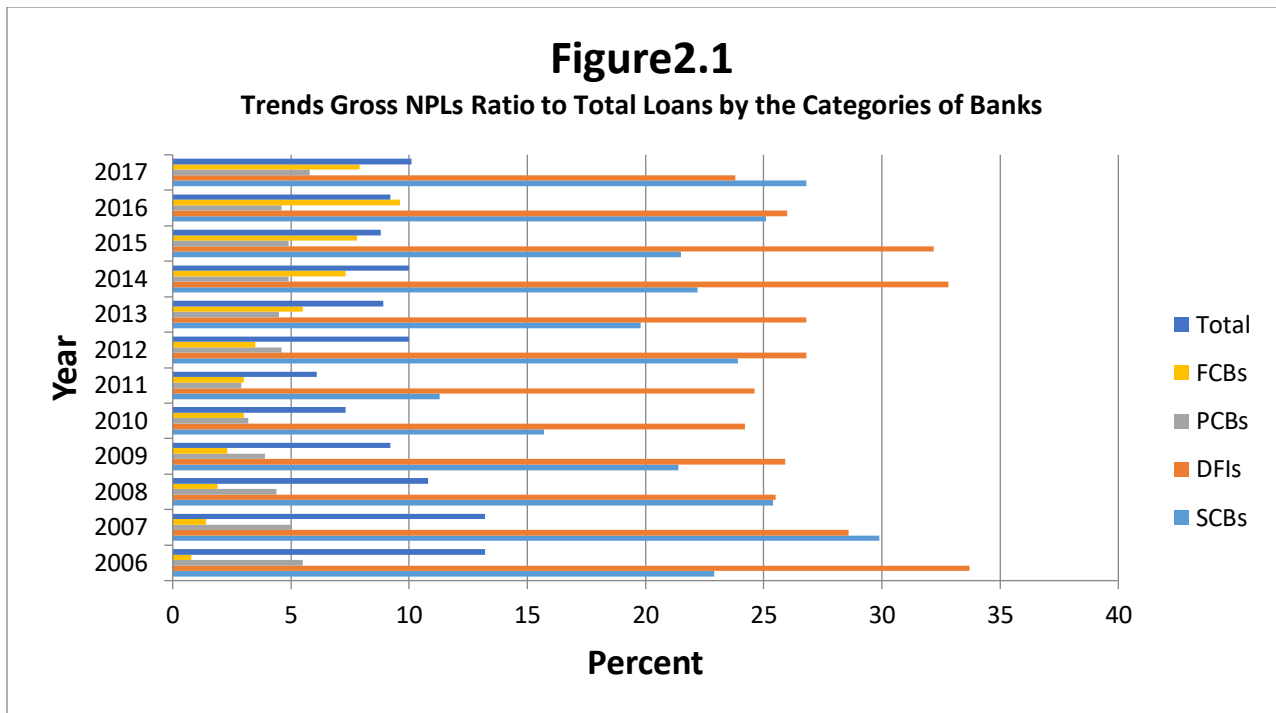
Source: Annual Reports of Bangladesh Bank (2006-2017)

In above Table 1.2 and Figure 1.2 present the tabular and graphical representation of Trends of the growth of total Amount of NPLs by the categories of banks (In Percent) and average growth rate of total amount of NPLs by the categories of banks. The FCBs has the highest growth rate in total amount of NPLs that is 40 percent and second highest growth rate 22 percent of PCBs than 16 percent for SCBs and lowest average growth rate 4 percent of DFIs during the study period 2006-2017. Trends of the average growth of total Amount of NPLs by the categories of banks specially SCBs, PCBs and FCBs are very high during the study period.

Table 2.1: Trends of Gross NPLs ratio to total Loans by the categories of Banks (in percent)

Banks categories	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
SCBs	22.9	29.9	25.4	21.4	15.7	11.3	23.9	19.8	22.2	21.5	25.1	26.8
DFIs	33.7	28.6	25.5	25.9	24.2	24.6	26.8	26.8	32.8	32.2	26	23.8
PCBs	5.5	5	4.4	3.9	3.2	2.9	4.6	4.5	4.9	4.9	4.6	5.8
FCBs	0.8	1.4	1.9	2.3	3	3	3.5	5.5	7.3	7.8	9.6	7.9
Total	13.2	13.2	10.8	9.2	7.3	6.1	10	8.9	10	8.8	9.2	10.1

Source: Annual Reports of Bangladesh Bank (2006-2017)



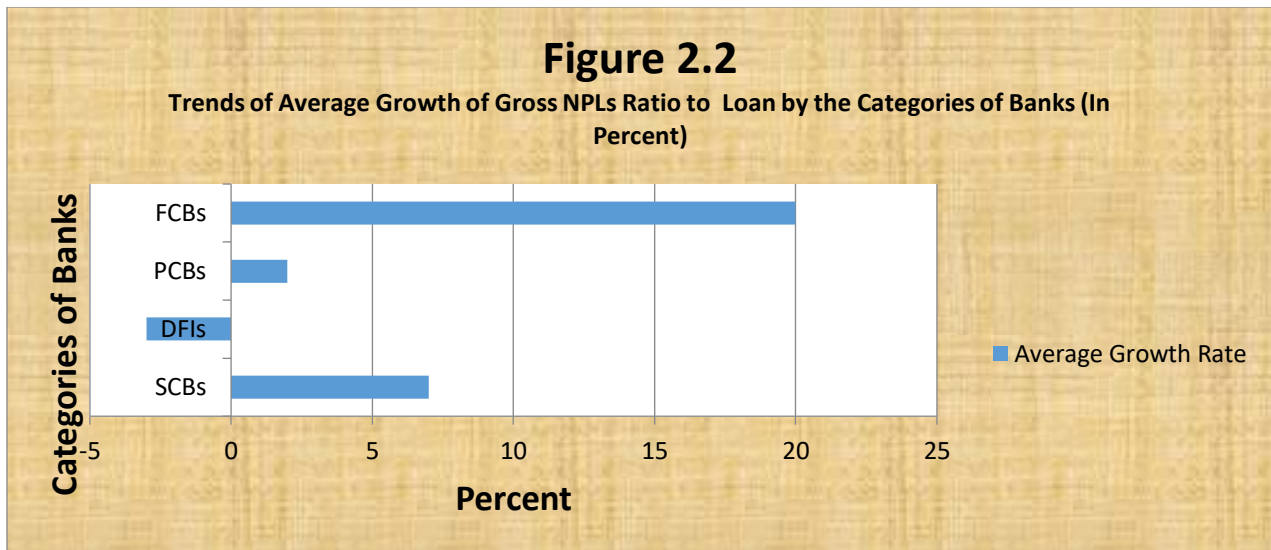
Source: Annual Reports of Bangladesh Bank (2006-2017)

The table 1.2 and Figure 1.2 represent the tabular and graphical representation of trends of Gross NPLs ratio to total loans by the category of Banks (in percent). The NPLs ratio to total loans is most important indicators of asset quality in the loans portfolio and the international standard of NPLs is 2 percent. If we look at the table 2.1 and figure 2.1 it is visualize that the DFIs had highest and PCBs had the lowest NPLs ratio to total loans and the NPLs ratio to total loans of SCBs, FCBs are respectively. The NPLs ratio to total loans of SCBS, DFIs, PCBs and FCBs was 22.9, 33.7, 5.5 and .8 percent respectively at the end of 2006. The NPLs ratio to total loans of SCBS, DFIs, PCBs and FCBs was 26.9, 23.8, 5.8 and 7.9 percent respectively at the end June of 2017. If we look at the total NPLs ratio to total loans in the banking sectors of Bangladesh during the study period from above graph and table it is shown that the declining trend at 2006 it was 13.2 percent and at the end of June 2017 was 10.1 percent.

Table 2.2: Trends of growth of Gross NPL ratio to total Loans by the categories of Banks (in percent)

Banks categories	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average Growth Rate
SCBs	7	31	-15	-16	-27	-28	112	-17	12	-3	17	7	7
DFIs	-4	-14	-11	2	-7	2	9	0	22	-2	-19	-8	-3
PCBs	-2	-9	-12	-11	-18	-9	59	-2	9	0	-6	26	2
FCBs	-38	75	36	21	30	0	17	57	33	7	23	-18	20

Source: Annual Reports of Bangladesh Bank (2006-2017)



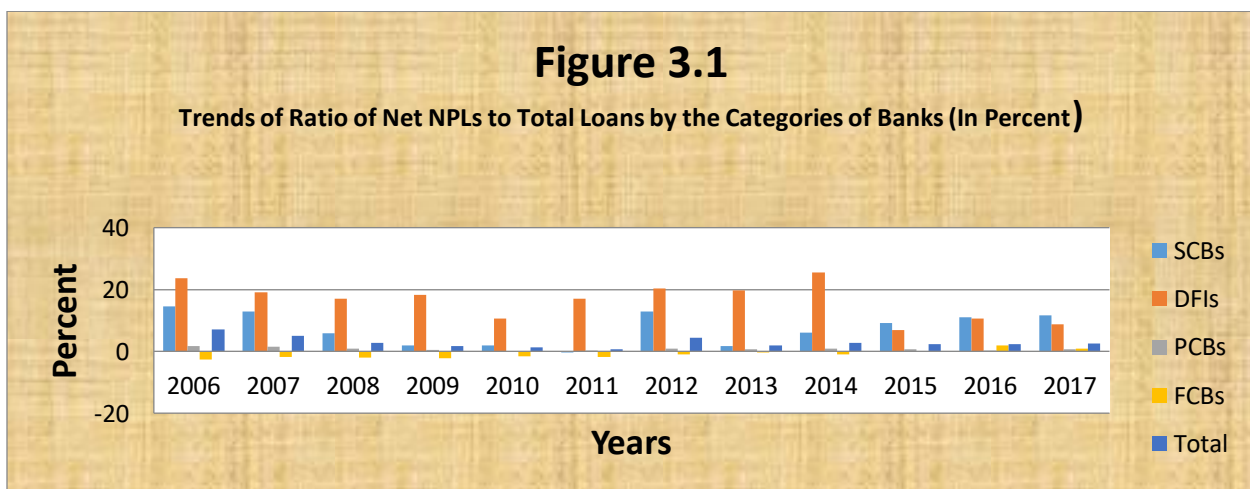
Source: Annual Reports of Bangladesh Bank (2006-2017)

From the Table 2.2 and Figure 2.2 researcher identified that the FCBs had higher average growth rate in gross NPLs ratio to total loans then SCBs, PCBs are respectively and DFIs had the lowest average growth in gross NPLs ratio to total loans during the research period 2006-2017. The FCBs position is very weak because gross NPLs ratio to total loans is very high but DFIs position is very strong because gross NPLs ratio to total loans is negative and gross NPLs ratio to total loans of SCBs and PCBs is 7 & 2 percent respectively during the research period 2006-2017.

Table 3.1: Trends of Ratio of net NPL to total loans by the categories of banks ((in percent)

Banks categories	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
SCBs	14.5	12.9	5.9	1.9	1.9	-0.3	12.8	1.7	6.1	9.2	11.1	11.6
DFIs	23.6	19	17	18.3	10.6	17	20.4	19.7	25.5	6.9	10.5	8.8
PCBs	1.8	1.4	0.9	0.45	0	0.2	0.9	0.6	0.8	0.6	0.1	0.7
FCBs	-2.6	-1.9	-2	-2.3	-1.7	-1.8	-0.9	-0.4	-0.9	-0.2	1.9	0.9
Total	7.1	5.1	2.8	1.73	1.3	0.7	4.4	2	2.7	2.3	2.3	2.6

Source: Annual Reports of Bangladesh Bank (2006-2017)



Source: Annual Reports of Bangladesh Bank (2006-2017)

In above Table 3.1 and Figure 3.1 present the tabular and graphical representation of Trends of ratio of net NPLs to total loans by the categories of banks (In Percent). The DFIs ratio of net NPLs to total loans is highest among the banking groups then SCBs, PCBs and FCBs are respectively but the FCBs had negative ratio of net NPLs to total loans its indicates that the FCBs had maintained the huge amount of provision against bad debt on the other hand DFIs doesn't maintained large provision against the bad debt during the research period 2006-2017. Since the ratio of net NPLs to total loans among banking categories some time it's very high for a group at the same time a group is very low or negative so that the total ratio of net NPLs to total loans in banking sectors in Bangladesh is not so high during the study period 2006-2017. The net NPLs ratio to total loans of SCBs, DFIs, PCBs and FCBs was 14.5, 23.6, 1.8, and -2.6 percent respectively at the end of 2006. The NPLs ratio to total loans of SCBs, DFIs, PCBs and FCBs was 11.6, 8.8, .7 and .9 percent respectively at the end June of 2017.

Hypothesis Testing

Trends of Total Amount of NPLs by the categories of banks

The researcher tries to find out there is significant difference regarding total amount of non-performing loans among the all four banking categories during the study period (2006-2017) or no significant difference regarding total amount of non-performing loans among the all four banking categories during the study period (2006-2017). The Hypothesis Test is as follows under.

Descriptive								
Banks Categories	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
					SCBs	12		
DFIs	12	54.6250	15.07986	4.35318	45.0437	64.2063	37.20	83.60
PCBs	12	133.9083	92.92823	26.82607	74.8646	192.9521	43.70	317.30
FCBs	12	10.4167	8.40301	2.42574	5.0776	15.7557	.80	24.10
Total	48	96.3021	92.67900	13.37706	69.3909	123.2133	.80	345.80
Test of Homogeneity of Variances								
Levene Statistic		df1	df2	Sig.	5% F Limits (Table value of F)			
17.570		3	44	.000	F (3,44) 2.77			

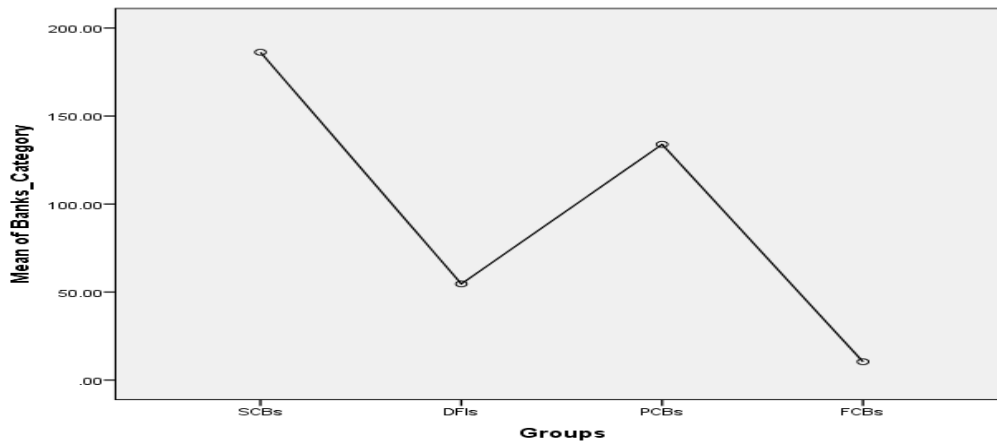
The researcher in this paper by using Levene Statistic testing the hypothesis whether the group variances are equal or not. From the above test of homogeneity of variances table, the authors found that the value of Levene Test statistic is =17.570 that is more than the critical value of F=2.77, that is why it is sufficient to reject the null hypothesis (**Ho**=There is Homogeneity of Variances regarding total amount of non-performing loans among the all four banking categories during the study period) and the value of significance F=.00 which is lower than the .05 is also express the null hypothesis rejected. So that there is **no** Homogeneity of Variances regarding total amount of non-performing loans among the all four banking categories during the study period.

ANOVA Table:

ANOVA						
	Sum of Squares	df	Mean Square	F	Sig.	5% F Limits (Table value of F)
Between Groups	223435.692	3	74478.564	18.179	.000	F (3,44) 2.77
Within Groups	180265.998	44	4096.954			
Total	403701.690	47				

From the above ANOVA table, the researcher found that the Calculated value of $F=18.179$, which is more than the table value of $F=2.77$ at the 5% level of significance, so that it is sufficient to reject the null hypothesis (H_0 =There is no significant difference regarding total amount of non-performing loans among the all four banking categories during the study period).The value of significance $F=.00$ that is lower than $.05$ express that the null hypothesis is rejected. That is why there is significant difference regarding total amount of non-performing loans among the all four banking categories during the study period (2006-2017).

Means plots



Hypothesis Testing

Trends of Gross NPL ratio to total Loan by the categories of Banks

The researcher tries to find out There is significant difference regarding trends of NPL (non-performing loans) ratios among the all four banking categories during the study period (2006-2017) or no significant difference regarding trends of NPL (non-performing loans) ratios among the all four banking categories during the study period (2006-2017). The Hypothesis Test is as follows under.

Descriptive								
Banks Category	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
SCBs	12	22.1583	4.95809	1.43128	19.0081	25.3086	11.30	29.90
DFIs	12	27.5750	3.47121	1.00205	25.3695	29.7805	23.80	33.70
PCBs	12	4.5167	.84728	.24459	3.9783	5.0550	2.90	5.80
FCBs	12	4.5000	2.98024	.86032	2.6064	6.3936	.80	9.60
Total	48	14.6875	10.97205	1.58368	11.5015	17.8735	.80	33.70

Test of Homogeneity of Variances				
Levene Statistic	df1	df2	Sig.	5% F Limits (Table value of F)
4.602	3	44	.007	F (3,44) 2.77

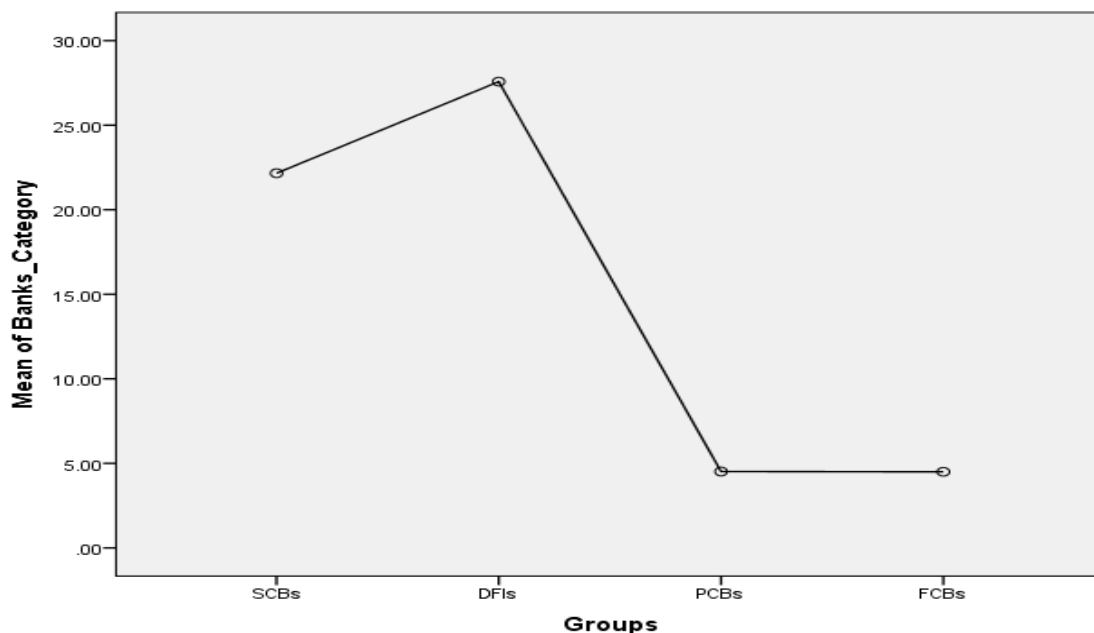
The researcher from the above test of homogeneity of variances table found that the value of Levene Test statistic is =4.602 that is more than the critical value of F=2.77, that is why it is sufficient to reject the null hypothesis (Ho=There is Homogeneity of Variances regarding trends of NPL (non-performing loans) ratios among the all four banking categories during the study period) and the value of significance F=.007 which is lower than the .05 is also express the null hypothesis rejected. So that there is no Homogeneity of Variances regarding trends of NPL (non-performing loans) ratios among the all four banking categories during the study period.

ANOVA Table:

ANOVA						
	Sum of Squares	df	Mean Square	F	Sig.	5% F Limits (Table value of F)
Between Groups	5149.584	3	1716.528	148.515	.000	F (3,44) 2.77
Within Groups	508.548	44	11.558			
Total	5658.133	47				

From the above ANOVA table, the researcher found that the Calculated value of F=148.515, which is more than the table value of F=2.77 at the 5% level of significance, so that it is sufficient to reject the null hypothesis (Ho= There is no significant difference regarding trends of NPL (non-performing loans) ratios among the all four banking categories during the study period).The value of significance F=.00 that is lower than .05 express that the null hypothesis is rejected. That is why there is significant difference regarding trends of NPL (non-performing loans) ratios among the all four banking categories during the study period (2006-2017).

Means Plots



Hypothesis Testing

Trends of Ratio of net NPL to total loans by the categories of banks.

The researcher tries to find out There is significant difference regarding trends of net NPL (non-performing loans) to total loans among the all four banking categories during the study period. (2006-2017) or no significant difference regarding trends of net NPL (non-performing loans) to total loans among the all four banking categories during the study period (2006-2017). The Hypothesis Test is as follows under.

Descriptive								
Banks category	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
SCBs	11	7.0636	5.30778	1.60036	3.4978	10.6295	-.30	14.50
DFIs	12	16.4417	5.94726	1.71683	12.6630	20.2204	6.90	25.50
PCBs	12	.7042	.51982	.15006	.3739	1.0344	.00	1.80
FCBs	12	-.9917	1.35610	.39147	-1.8533	-.1300	-2.60	1.90
Total	47	5.7777	7.98859	1.16526	3.4321	8.1232	-2.60	25.50

Test of Homogeneity of Variances				
Levene Statistic	df1	df2	Sig.	5% F Limits (Table value of F)
16.162	3	43	.000	F (3,44) 2.77

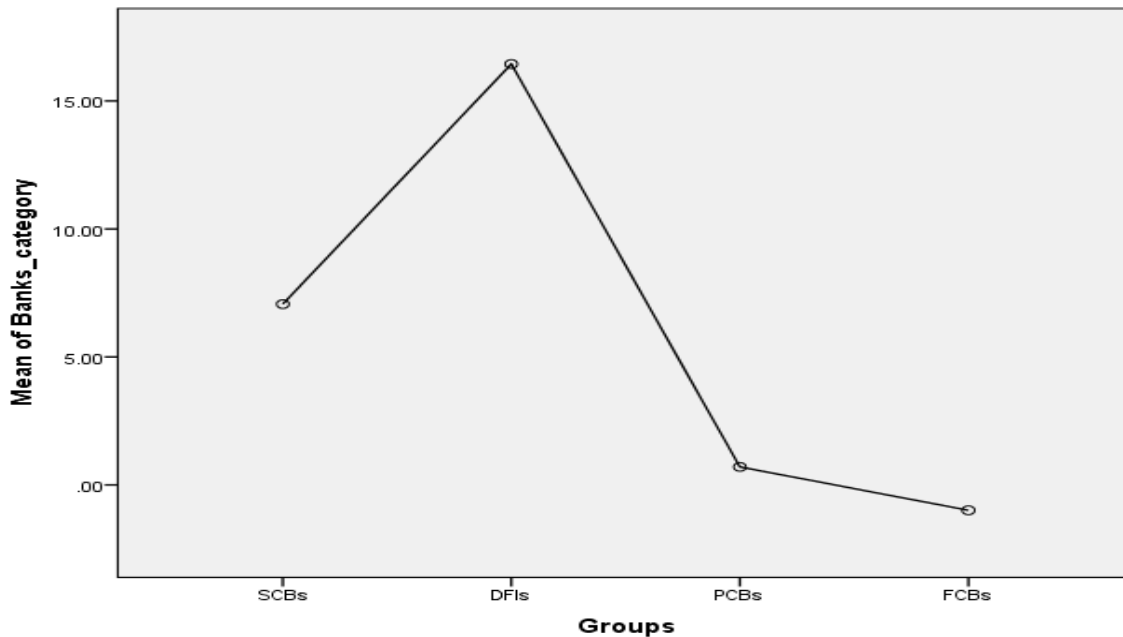
The researcher in this paper by using Levene Statistic testing the hypothesis whether the group variances are equal or not. From the above test of homogeneity of variances table, the authors found that the value of Levene Test statistic is =16.162 that is more than the critical value of F=2.77, that is why it is sufficient to reject the null hypothesis (Ho=There is Homogeneity of Variances regarding trends of net NPL (non-performing loans) to total loans among the all four banking categories during the study period) and the value of significance F=.00 which is lower than the .05 is also express the null hypothesis rejected. So that there is no Homogeneity of Variances regarding trends of net NPL (non-performing loans) to total loans among the all four banking categories during the study period.

ANOVA Table:

ANOVA						
	Sum of Squares	df	Mean Square	F	Sig.	5% F Limits (Table value of F)
Between Groups	2241.613	3	747.204	46.297	.000	F (3,44) 2.77
Within Groups	693.996	43	16.139			
Total	2935.609	46				

From the above ANOVA table, the researcher found that the Calculated value of F=46.297, which is more than the table value of F=2.77 at the 5% level of significance, so that it is sufficient to reject the null hypothesis (Ho= There is no significant difference regarding trends of net NPL (non-performing loans) to total loans among the all four banking categories during the study period).The value of significance F=.00 that is lower than .05 express that the null hypothesis is rejected. That is why there is significant difference regarding trends of net NPL (non-performing loans) to total loans among the all four banking categories during the study period (2006-2017).

Means Plots



10. Findings

The performances of four categories of banks which are SCBs, DFIs, PCBs and FCBs on the Non-performing loans are not same/equals and there is no Homogeneity of Variances and all of the banking categories are failed to meet the international standards 2 percent of NPLs ratio to total loans, the average growth rate of NPLs is very high among the banking categories during the study periods. The SCBs and DFIs have continues maintain the high level of NPL and NPLs ratio to total loans then PCBs and FCBs because of SCBs and DFIs are reluctant to write off of accumulated historical bad loans for the poor quality of collateral which are underlying to loans. So that there is needed to improve operational efficiency or operational weakness and weak governance of corporation alongside this needed to monitor closely foe enhancing sound banking operations after than the NPLs recovery record during the study period has witnessed some sign or signal for improvement, due to number of step are taken with regard to internal restructuring for strengthen the loan recovery mechanism and initiative taken for written off measurement in recent time for all the banking categories that is why the researchers are expected that the overall performance on NPLs will be improved greatly in near future by the ways of taken appropriate action in the lagged areas.

11. Conclusion

The banking systems play an important role to economic development of a country by the ways of collecting deposit from the surplus units those collected fund provide loans to the defecate units. The success of banking business depends on how efficiently banks collect fund and how efficiently management the loans so that the performance of loans management is important for banking industry. From the analysis and interpretation it is clear that the present status of total amount of NPLs and average growth of NPLs, the NPLs to total loans ratio and average growth of NPLs to total loans and the net NPLs to total loans is not so good in the banking industry in Bangladesh

and there is a significance differences in the performance on NPLs among the banking categories during the study period. The test of homogeneity of variance shows that the there is no homogeneity of variance about the total NPLs, NPLs to total loans and net NPLs to total loans among all the banking categories during the study period. If we look at the total NPLs by the categories of banks the average growth rate of NPLs for FCBs is 40%, PCBs is 22%, SCBs is 16% and DFIs is 4%.The international stranded of NPLS ratio to total loans is 2% but most of the banking groups of Bangladesh had NPLs to total loans ratio is above 2% and average growth rate of NPLs to total loans ratio for FCBs is 20% SCBs is 7% PCBs is 2% and DFIs is -3%. The net NPLs ratio of banking categories are rank according to high percent DIFs , SCBs ,PCBs and FCBs is negative its means that this banks groups maintained high provisions for bad debt after than the NPLs recovery record during the study period has witnessed some sign or signal for improvement, due to number of step are taken with regard to internal restructuring for strengthen the loan recovery mechanism and initiative taken for written off measurement in recent time for all the banking categories that is why the researchers are expected that the overall performance on NPLs will be improved greatly in near future by the ways of taken appropriate action in the lagged areas.

12. Recommendations and Suggestions

- The banks should be taken some remedial course of action very carefully to reduce the Non-performing loans those undertaken steps are given below:
- To prevent of NPLs in the banking sectors of Bangladesh the bankers should select the right customers for sanction of loans;
- The banks should observe closely to the customer so that the customers are unable to divert fund from sanction project to other areas of business;
- The banking industry should reduce fierce competitions among the banking groups for the sanction of loans to reduce Non-performing Loans (NPLs);
- The concern authority should take the initiative to stop the unethical activities or corruption of the banks staffs in loans sanction;
- The government of the country should take initiative to prevent the political influence to create pressure for sanction of loans to a customer who are not eligible for those loans;
- The banks should increase the operational efficiency of operational weakness and improve the governance of corporation on the sanction of loans;
- The concern authority should formulate and implement the rules and regulation to prevent the high Non-performing Loans (NPLs) in the banking sectors of Bangladesh;
- The banks should not sanction excessive loans and sanction a limited amount of loans to an inexperience or inefficient customer;
- The banks should properly assess the value of asset which provided by borrower as collaterals and assess the credit risk of a customer based on the area of the country.

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